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PN - KR2002078637 A 20021019  
 TI - PREPARATION OF ULTRAFINE TIO2 POWDER FROM TiCL4 SOLUTION USING INORGANIC ACID  
 PA - AHAE CORP (KR); PAK CHONG SIK (KR); YANG YEONG SEOK (KR)  
 IN - PAK CHONG SIK (KR); YANG YEONG SEOK (KR)  
 AP - KR20010018426 20010406  
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 DT - I

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AN - 2003-490093 [46]  
 TI - Preparation of ultrafine titanium dioxide powder from titanium tetrachloride solution using inorganic acid  
 AB - KR2002078637 NOVELTY - Provided is a preparation method of crystalline titanium dioxide powder with nano size and uniform particle distribution by using titanium tetrachloride as a starting material.  
 - DETAILED DESCRIPTION - The preparation method of nano-sized (at most 1 micrometer) rutile TiO<sub>2</sub> powder is as follows:  
 - (i) keeping the temperature of TiCl<sub>4</sub> constant in a reactor (-10 to 10 deg. C);  
 - (ii) adding 0.01-5 N of aqueous inorganic acid (-10 to 10 deg. C) such as HCl, HNO<sub>3</sub>, H<sub>2</sub>SO<sub>4</sub>, H<sub>3</sub>PO<sub>4</sub> for Ti<sup>4+</sup> solution (at least 1.4M) containing TiOCl<sub>2</sub> and HCl;  
 - (iii) adding distilled water at room temperature to be 0.1-0.4M of Ti<sup>4+</sup> and mixing;  
 - (iv) aging at 15-200 deg. C for 2-24 hours to get precipitates (TiO<sub>2</sub>);  
 - (v) filtering, diluting TiO<sub>2</sub> slurry with distilled water, and adding alkali solution, nonmetallic hydroxides, such as NaOH, KOH and NH<sub>4</sub>OH to adjust the pH of the diluted TiO<sub>2</sub> to be 6-8; and  
 - (vi) filtering, washing 1-3 times to remove NaCl, and drying.  
 - (Dwg.1/10)  
 IW - PREPARATION ULTRAFINE TITANIUM POWDER TITANIUM SOLUTION INORGANIC ACID  
 PN - KR420275 B 20040302 DW200443 C01G23/047 000pp  
 - KR2002078637 A 20021019 DW200346 C01G23/047 001pp  
 IC - C01G23/047  
 MC - E35-K01 G01-A08  
 DC - E32 G01  
 PA - (AHAE-N) AHAE CORP  
 - (PAKC-I) PAK C S  
 - (YANG-I) YANG Y S  
 IN - PAK C S; YANG Y S  
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